

REMARKS

The above amendments are submitted within the three-month period for response to the Final Office Action mailed December 13, 2005 and in connection with a Request for Continued Examination (RCE). Authorization to charge Deposit Account 23-3000 in the amount of \$790.00 for the requisite fee is hereby granted. Reconsideration and allowance of all pending claims are respectfully requested.

In the subject Office Action, claims 1 and 5 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Application Publication No. 2004/0120537 to Takei (Takei). In addition, claims 1, 3-4, 6-9, 17-18, 20, 22-24, 26 and 29 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,167,140 to Watanabe (Watanabe) in view of U.S. Patent No. 6,760,448 to Gundry (Gundry); claim 2 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Watanabe in view of Gundry and further in view of U.S. Patent No. 6,442,278 to Vaudrey et al. (Vaudrey); claims 10-16, 19, 25 and 28 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Watanabe in view Gundry and further in view of U.S. Patent No. 6,766,028 to Dickens (Dickens); and claim 27 was rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,167,140 to Watanabe in view of Gundry and further in view of Takei.

Applicants respectfully traverse the Examiner's rejections to the extent that they may be maintained. Applicants have nonetheless amended claims 1-8, 10-12, 14, 17-18, 20-22 and 24-29 in deference to the appreciated suggestions of the Examiner and to further the case onto allowance. Applicants respectfully submit that no new matter is being added by the above amendments, as the amendments are fully supported in the specification, drawings and claims as originally filed.

As an initial matter, Applicants wish to thank the Examiner for the courtesy extended to Applicants' representative during two telephone interviews during the week of March 6, 2006. During the interviews, potential amendments to the claims were discussed in terms of the claimed sequences of post processing algorithms. To this end, each independent claim has been amended to reflect the appreciated suggestions of the

Examiner. Applicants respectfully submit that the recited and specific sequences of audio post processing algorithms are novel and unobvious over the cited prior art.

Applicants believe they have invented a novel way to arrange and interact audio port processing actions, regardless of any individual post processing actions being known. Applicants have sequenced the post processing actions in a manner that substantially reduces clipping, choppy and tinny audio distortions that plague prior art audio systems.

None of the cited prior art discloses or suggests the claimed sequence of post processes. In fact, the primary references, even in combination, fail to contemplate all of the post processes included in a claimed, specific sequence, let alone teach or suggest the sequence. For instance, the references fail to disclose or suggest transmitting an ambient noise containing channel (using VES/DCS techniques), and outputting a low frequency input channel in accordance with the respectively claimed enhanced surround sound and base management features. Even if they did, however, the references would still not teach or suggest the claimed, specific sequence.

Next turning specifically to the rejection of independent claim 1, this claim as amended recites an audio post processing method that includes the sequence of matrix mixing an audio signal, then decoding a surround channel of the audio signal, then outputting a low frequency input channel of the audio signal to a low frequency effect compatible speaker, transmitting an ambient noise containing channel of the audio signal to a speaker system operable to create a three dimensional effect, then center channel equalizing the audio signal.

Takei does not teach the specific sequence claimed by Applicants. Moreover, Takei does not teach base management or enhanced surround sound techniques recited in claim 1 (i.e., outputting a low frequency input channel of the audio signal to a low frequency effect compatible speaker, and transmitting an ambient noise containing channel of the audio signal to a speaker system operable to create a three dimensional effect). The reason for Takei's failure to teach such features speaks to its disparate purpose. Takei is rather concerned with boosting middle and low frequency components of the center channel signal in stereo signals (paragraph [0015]). Because Takei fails to

teach the claimed sequence of post processes, and even several of the claimed post processes themselves, independent claim 1 is novel and non-obvious over Takei.

Similarly, any combination of Watanabe with Gundry fails to suggest the specific sequence of post processes recited in claim 1. In fact, both references fail to contemplate (in any sequence) enhanced surround sound features embodied in claim 1 (i.e., transmitting an ambient noise containing channel of the audio signal to a speaker system operable to create a three dimensional effect).

Notwithstanding the absence of one of the claimed post processing features, however, the cited combination still fails to suggest or motivate the specific sequence laid out in claim 1. This failure to suggest such a sequence is in part attributable to the different purposes and processes of the cited references. For instance, Watanabe is directed to an amplifier capable of accommodating by wiring speakers that are driven in two-channel stereo (column 1, lines 52-55 and lines 66-67). Gundry is directed to a manner for providing compatibility with conventional two surround channel playback and standard 5.1 channel and 7.1 channel systems (column 9, lines 53-59). Neither of these references addresses the compounding effects and interactions of multiple post processes. Applicants consequently and respectfully submit that the prior art cited by the Examiner fails to disclose or suggest the sequence and other features included in claim 1.

Independent claim 1 is therefore novel and non-obvious over the prior art of record.

Next turning specifically to the rejection of independent claim 17, this claim as amended generally recites an audio post processing system that includes at least one decoder operable to perform the sequenced steps of matrix mixing an audio signal, then decoding a surround channel of the audio signal, then outputting a low frequency input channel of the signal to a low frequency effect compatible speaker, transmitting an ambient noise containing channel of the signal to a speaker system operable to create a three dimensional effect, then center channel equalizing the input signal. Thus, the claim comprises many of the same sequence of post processes discussed in connection with claim 1. As such, claim 17 is novel and non-obvious for at least the reasons discussed above in connection with claim 1. Claim 17 furthermore recites additional features that

include a player console operable to receive listener input and a signal source producing a signal comprised of a plurality of channels, each channel operable to drive a loudspeaker positioned at one or more of a plurality of destinations. Applicants respectfully submit that independent claim 17 is novel and non-obvious over the prior art of record for at least the same reasons discussed above in connection with claim 1.

Next, with respect to the rejection of independent claim 28, this claim as amended generally recites an audio post processing system that includes many of the distinguishing features of claim 17, in addition to a headphone algorithm. Again, the prior art does not suggest the recited sequence that dramatically reduces distortion in that plagues conventional audio systems, as discussed above in connection with the preceding independent claims. Claim 28 is therefore novel and non-obvious over the prior art of record.

Finally, with respect to the rejection of independent claim 29, this claim as amended includes a sequence of method steps similar to those recited in claim 1. Claim 29 is therefore novel and non-obvious for reasons similar to those discussed in connection with claim 1. More particularly, the prior art does not suggest the claimed sequence. For instance, the references fail to suggest "wherein outputting the low frequency input channel always precedes transmitting the ambient noise containing channel, and center channel equalizing the signal; and wherein transmitting the ambient noise containing channel always precedes center channel equalizing the signal." The references even fail to disclose the steps of "outputting a low frequency input channel of the signal to a low frequency effect compatible speaker, and transmitting an ambient noise containing channel of the signal to a speaker system operable to create a three dimensional effect," both of which comprise part of the sequence. Applicants respectfully submit that independent claim 29 is therefore also novel and non-obvious over the prior art of record.

In summary, Applicants respectfully submit that all pending claims are novel and non-obvious over the prior art of record. If the Examiner has any questions regarding the foregoing, or wishes to discuss matters to quickly further this case onto allowance, Applicants invite the Examiner to contact the undersigned at (513) 241-2324.

If any other charges or credits are necessary to complete this communication, please apply them to Deposit Account 23-3000.

Respectfully submitted,

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Date

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